

## Zoology 141 Human Anatomy and Physiology

CRN 64012: TR: 10:00-11:15 AM, Imiloa 123

|                        |                                       |
|------------------------|---------------------------------------|
| <b>INSTRUCTOR:</b>     | Ross Langston, PhD                    |
| <b>OFFICE:</b>         | Hale 'Imiloa 104                      |
| <b>EMAIL:</b>          | langston@hawaii.edu                   |
| <b>OFFICE HOURS:</b>   | TBA                                   |
| <b>TELEPHONE:</b>      | 236-9119 (office) and 429-6218 (cell) |
| <b>EFFECTIVE DATE:</b> | Fall, 2018                            |

### WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

*Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide O'ahu's Ko'olau region and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.*

### CATALOG DESCRIPTION

The first semester of a two-semester course in human anatomy and physiology. Topics include: gross anatomy, human embryology, microanatomy, physiology, pathology, and homeostatic relationships. This course is intended for students entering health care or medically related fields such as nursing, physical therapy, and medical technology. (3 hrs. lect)

### STUDENT LEARNING OUTCOMES

Upon successful completion of ZOOL 141, the student should be able to:

1. Discuss the major chemical elements found in the human body and describe the different ways in which these elements combine to form molecules and compounds.
2. Understand the functions of cellular organelles, and be able to trace the path of protein manufacture in the cell.
3. Compare and contrast the physical, chemical, and biological factors governing the transport of materials across the cell membrane.
4. Discuss the link between cells and tissues and describe how tissue structure determines its suitability for secretion, absorption, support, or protection.
5. Use standard medical terminology to describe body positions and the orientations.
6. Describe the anatomy and function of the integumentary, skeletal, muscular, and nervous systems, and discuss how these systems maintain homeostasis in the human body.
7. Discuss how negative feedback maintains homeostasis in each of the above body systems. Also, be able to explain how disease and disorders disrupt the homeostasis of each of the above body systems and discuss how common medical treatments and drugs are used to restore homeostasis.

## COURSE CONTENT

### *Concepts or Topics*

The student will describe and integrate basic biological principles and define basic biological terms presented in lecture, required texts, and other instructional materials. These principles include the following areas:

- Philosophy and characteristics of science and the scientific method;
- The difference between hypotheses, theories and laws;
- Hierarchical architecture of the human body (cells, tissues, organs, and organ systems);
- The chemical composition of the human body and the functions of the major groups of biological molecules;
- Anatomy and physiology of cells including: protein production, cellular respiration, mitosis, and meiosis, senescence and cell death (apoptosis).
- Anatomy and physiology of the systems that make up the human body, including skeletal, integumentary, muscular, and nervous systems.
- Mechanisms for maintenance of homeostasis in the human body.

## COURSE TASKS

- 1) Attend class at scheduled times.
- 2) Participate in in-class clicker assessments & class discussions.
- 3) Complete assigned readings prior to lecture.
- 4) Complete weekly online quizzes.
- 5) Complete three class examinations at the WCC testing center (ID required).

## ASSESSMENT TASKS AND GRADING

**EXAMINATIONS** (600 points total-200 points for each exam). The student will take **THREE** exams (non-cumulative) at the WCC testing center to demonstrate knowledge and understanding of information presented in the lectures, lecture outlines, text readings, and study guide activities.

**Exams must be taken at the WCC Testing center, or another approved UH location. The exam MUST be completed by 4:00 PM on the day of the deadline.** You will need to bring a driver's license or other approved state ID to the testing center in order to take the exam. They will be timed (typically one minute/question) and may consist of multiple-choice, short answer, or essay questions. You will be allowed to take the exam one time only.

**QUIZZES** (130 points- 10 points for each quiz). The student will take 15 online quizzes which will cover material from the lecture and reading. **Quizzes may be taken from home, but they MUST be taken by the indicated deadline (typically 11:00 PM each Friday).** Each quiz can be taken up to **FIVE** times; only the highest score will be saved. Please note that quizzes cannot be made up for any reason, including network problems, or personal emergencies. The lowest **TWO** quiz grades will be dropped at the end of the semester. As with exams, quizzes will be timed (typically 30 s to 1 min per question, depending on difficulty). Quizzes may be taken open-book, but be warned that if you do not study beforehand you will not be able to complete the quiz before the deadline lapses.

**ATTENDANCE** (50 points). Class attendance is mandatory. Students are required to sign an attendance sheet at the beginning of every class. Each student is allowed two absences without penalty. Any absences beyond two will result in a 2-point deduction from the attendance grade. Students who are more than five minutes late to class will be counted as absent. Please note that absences may also result in a loss of class participation points, since an absent student is not able to participate in class discussions, clicker assessments, or other in-class activities.

**CLASS PARTICIPATION** (70 points). Students are expected to come to class prepared for lecture (i.e., having read the assigned chapters in their textbook and reviewed notes from previous lectures). Student preparation will be evaluated by periodic in-class clicker quizzes, class discussions, activities, and/or exam reviews.

### METHOD OF GRADING

The assignment of points will be according to the following:

|                            |                   |
|----------------------------|-------------------|
| Exams                      | 600 points        |
| Quizzes                    | 130 points        |
| Attendance                 | 50 points         |
| <u>Class Participation</u> | <u>70 points</u>  |
| <b>TOTAL</b>               | <b>850 points</b> |

### GRADING SCALE

| Percentage Points | Grade |
|-------------------|-------|
| 90-100            | A     |
| 80-89             | B     |
| 70-79             | C     |
| 60-69             | D     |
| 0- 59             | F     |

### **Please not that “N” grades are not given for this course.**

Grades may be curved at the instructor’s discretion; however, the student should use the above grading scale to evaluate their performance throughout the class. If you miss an examination because of an illness or legitimate emergency, you must contact the instructor **within 48 hours** to arrange a time to take a make-up exam. The instructor will request that the student present evidence of the illness or emergency that caused the student to miss the exam. If the student misses an exam for any other reason, the student may be prohibited from taking a make-up exam, thus failing to receive any points for the missed exam. While make-up exams will cover the same content area as a missed exam, the exam format and specific questions may be different.

**No retests will be given for any reason.**

### ACADEMIC DISHONESTY

**Students involved in academic dishonesty will receive an "F" grade for the course.**

Academic dishonesty includes cheating on exams and plagiarism. See p. 15 of the 2018-2019 [course catalog](#) for a description of the College’s policies concerning academic dishonesty.

### LEARNING RESOURCES

**Textbooks:** Marieb, E.N. and K. Hoehn. Human Anatomy and Physiology. 11<sup>th</sup> Ed. Pearson. ISBN: 9780134763293.

**Lecture Outlines:** Powerpoint outlines for course lectures are available on the course website.

**Laulima:** Your instructor has created a [laulima website](#) to accompany this course. This website contains links to lecture outlines, lab activities, and review materials. All students enrolled in the class are automatically granted access to the course website. You will need a UH email account to access the Laulima site.

**Adobe Reader:** You will need to download a recent copy of adobe reader to view the lecture files. A copy is available at: <http://get.adobe.com/reader/>

## Additional Information

### STUDENT RESPONSIBILITIES

You are expected to attend lectures, participate in all course activities, and complete all examinations and course assignments on time. Please be considerate of other students by turning off any cell phones or beepers during class. Any changes in the course schedule, such as examination dates, deadlines, etc., will be announced ahead of time. It is your responsibility to be informed of these changes. It is also your responsibility to be informed about deadlines critical to making registration changes (e.g., last day for making an official withdrawal).

### HOW TO SUCCEED IN THIS CLASS

Although you will be given lecture outlines, you will not succeed in this class without attending lecture and taking detailed notes on the corresponding material in the textbook. Merely reading the chapter will not suffice. Science courses at WCC generally require a minimum of two to three hours of independent study time for each hour in class. It is your responsibility to allocate the appropriate amount of time needed for study and be realistic about all personal and professional commitments that may infringe on your study time.

As part of your studies, you will need to understand a veritable *mountain* of medical and anatomical terms, most of which will probably be foreign to you. Many students find it helpful to enroll in HLTH 125 (Survey of Medical Terminology) at the same time as ANSC 142, as there is some repetition in the material covered. In this course, most important vocabulary words appear in **boldface** throughout your textbook. One way to learn these vocabulary words is to make flash cards to quiz yourself. Answering the matching and fill-in-the-blank questions located in the back of each text chapter can also be a helpful way to learn new terms. Be warned: Merely knowing the *definitions* of vocabulary words will be of little use if you do not know how the anatomy of the structures they represent.

In addition to vocabulary, you will be expected to have a detailed understanding of the mechanisms regulating human body systems. In many cases, these systems are regulated by negative feedback loops. **Knowledge of negative feedback mechanisms is absolutely crucial to understanding how the human body maintains homeostasis.** For example, you should know how the body maintains optimal blood calcium levels (see chapter 6). To answer this type of question effectively, you will need to develop an intuitive understanding of how the body monitors blood calcium and what actions it takes when blood calcium is too low or too high. One way to do this is to make a diagram of how the feedback loop works (see figure 6.11). Most negative feedback loops have 3 parts. 1) a **receptor**, which monitors the condition (in this case, blood calcium levels) 2) a **control center** which “decides” when the condition has exceeded optimal setpoint values 3) and an **effector** which modifies the values of a controlled condition as directed by the control center. Once you have created your diagram (and labeled the above parts) you should ask yourself what types of **stimuli** may cause the controlled condition to drop below or exceed the setpoint and then trace the steps necessary to bring the controlled condition back into homeostasis (back to the setpoint).

**My #1 Suggestion for success in this class:** Take weekly quizzes EARLY, even if you have not had a chance to properly study for the quiz. This will prevent you from receiving a “zero” score should you forget to take the quiz by the deadline. It will also help you to better direct your studying so you can do better on future attempts for the same quiz. Remember, only your **HIGHEST** score is saved for each quiz. You will only be able to take each exam once. This

means you should study diligently before going to the testing center to take the exam. NO RETESTS WILL BE GIVEN!

### *MySuccess Student Support System*

At Windward community college we want every student to be successful. MySuccess is a system wide effort that seeks to support students early in the semester when they first begin experiencing difficulty in class. If I feel that you're having difficulty in my class within the first few weeks of the semester (e.g. missing class, missing assignments, or low test scores) and working together to address your challenges shows that you would really benefit from being connected to resources outside of the classroom, I may refer you to your assigned counselor. Once referred, MySuccess will:

- Call you and send an email to your Hawaii.edu account to let you know about my referral;
- Have a Counselor follow up with you by phone or by email to find out what kinds of help you might need and connect you with the necessary resources to help you devise a strategy for success.

I will not refer you without telling you. However, if I do refer you, know that I am doing so in an effort to connect you with all of the help you may need to do well this semester as your success is important to me.

### **DISABILITIES ACCOMMODATIONS**

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help you succeed in this class. Ann Lemke can be reached at 235-7448, [lemke@hawaii.edu](mailto:lemke@hawaii.edu), or you may stop by Hale 'Ākoakoa 213 for more information.

### **TITLE IX**

Title IX prohibits discrimination on the basis of sex in education programs and activities that receive federal financial assistance. Specifically, Title IX prohibits sex discrimination; sexual harassment and gender-based harassment, including harassment based on actual or perceived sex, gender, sexual orientation, gender identity, or gender expression; sexual assault; sexual exploitation; domestic violence; dating violence; and stalking. For more information regarding your rights under Title IX, please visit: [https://windward.hawaii.edu/Title\\_IX/](https://windward.hawaii.edu/Title_IX/).

Windward Community College is committed to the pursuit of equal education. If you or someone you know has experienced sex discrimination or gender-based violence, Windward CC has resources to support you. To speak with someone confidentially, contact Karla Silva-Park, Mental Health Counselor, at 808-235- 7468 or [karlas@hawaii.edu](mailto:karlas@hawaii.edu) or Kaahu Alo, Designated Confidential Advocate for Students, at 808-235- 7354 or [kaahualo@hawaii.edu](mailto:kaahualo@hawaii.edu). To make a formal report, contact the Title IX Coordinator at 808-235-7393 or [wccitix@hawaii.edu](mailto:wccitix@hawaii.edu).

### **ALTERNATE CONTACT INFORMATION**

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

Location: Alakai 121  
 Phone: 808-235-7422  
 Email: [wccaa@hawaii.edu](mailto:wccaa@hawaii.edu)

## ZOOLOGY 141 (CRN 64012: TR: 10:00-11:15) FALL, 2018

**\* Please note this schedule is tentative & subject to change. Any changes will be announced in-class or on the course website!**

| Week | Date                      | Topics  | Text             | Assignment Due<br><b>FRIDAY</b><br>(4 PM for exams; 11 PM for quizzes and DBs) |
|------|---------------------------|---|------------------|--|
| 1    | T 8/21<br>R 8/23          | Course Introduction<br>Orientation to the Human Body                        | Syllabus<br>Ch 1 | 8/24: Chapter 1 Quiz   |
| 2    | T 8/28<br>R 8/30          | Chemistry<br>Important Biological Macromolecules                            | Ch 2             | 8/31: Chapter 2 Quiz   |
| 3    | T 9/4<br>R 9/6            | Intro to the Cell & Membrane Trans<br>Cellular Organelles and Cell Division | Ch 3             | 9/7: Chapter 3 Quiz  |
| 4    | T 9/11<br>R 9/13          | Tissue Level of Organization  | Ch 4             | 9/14: Chapter 4 Quiz   |
| 5    | T 9/18<br>R 9/20          | The Integumentary System<br><b>Exam #1 Review</b>                           | Ch 5             | 9/21: Chapter 5 Quiz   |
| 6    | T 9/25<br>R 9/27          | Bones & Skeletal Tissue<br>Axial Skeleton                                   | Ch 6             | <b>9/28: EXAM 1<br/>(CH 1-5)</b>   |
| 7    | T 10/2<br>R 10/4          | Appendicular Skeleton<br>Joints & Joint Movements                           | Ch 7<br>Ch 8     | 10/5: Chapter 6 Quiz   |
| 8    | T 10/9<br>R 10/11         | Muscle Tissue & Physiology  | Ch 9             | 10/12: Chapter 7 Quiz  |
| 9    | T 10/16<br>R 10/18        | Muscular System   | Ch 10            | 10/19: Chapter 8 Quiz  |
| 10   | T 10/23<br>R 10/25        | TBA<br><b>Exam #2 Review</b>  |                  | 10/26<br>Chapter 9 Quiz<br>Chapter 10 Quiz                                     |
| 11   | T 10/30<br>R 11/1         | Fundamentals of the Nervous System &<br>Nervous Tissue                      | Ch 11            | <b>11/2: EXAM 2<br/>(CH 6-10)</b>  |
| 12   | <b>T 11/6</b><br>R 11/8   | <b>General Election Day</b><br>Central Nervous System: Spinal Cord          | Ch 12            | 11/9: Chapter 11 Quiz  |
| 13   | T 11/13<br>R 11/15        | Central Nervous System: The Brain<br>Peripheral Nervous System & Reflexes   | Ch 12<br>Ch 13   | 11/16: Chapter 12 Quiz   |
| 14   | T 11/20<br><b>R 11/22</b> | Special Senses I<br><b>Holiday: Thanksgiving</b>                            | Ch 15            | 11/23: Chapter 13 Quiz   |
| 15   | T 11/27<br>R 11/29        | Special Senses II<br>Autonomic Nervous System                               | Ch 14<br>Ch 14   | 11/30: Chapter 15 Quiz   |
| 16   | T 12/4<br>R 12/6          | TBA<br><b>Exam #3 Review</b>  |                  | 12/7: Chapter 14 Quiz  |

- Last day for full refund: August 28<sup>th</sup>
- Last day to drop without "W" grade: September 11<sup>th</sup>
- Last day to Withdraw ("W" entered on transcript): October 29<sup>th</sup>
- **Final Exam:** Due by Tuesday, December 11 at 4:00 PM